AMENDMENTS TO THE CLAIMS

Claims 1-21 (Canceled).

22. (New) A process for manufacturing an optical negative birefringent layer consisting of a monomer material or a prepolymer material and having an optical axis perpendicular to a surface thereof, said process comprising

(1) pouring the monomer material or the prepolymer material

(a) over a rigid substrate surface,

(b) between two rigid substrate surfaces separated by deformable spacers, or

(c) between two rigid substrate surfaces separated by non-deformable spacers,

to form a material layer;

(2) polymerizing said material layer at an elevated temperature which is lower than a glass phase transition temperature of the monomer material or the prepolymer material, such that for

(a) or (b) said material layer is fully cured,

and for (c) said material layer polymerizes at room temperature to a first level at which viscosity of the monomer

material or the prepolymer material is increased to a point that the monomer material or the prepolymer material does not leak out from between the substrate surfaces, followed by removal of the non-deformable spacers, and completion of the polymerizing at said elevated temperature,

so that for (a), (b) and (c) the material layer unrestrainably shrinks in a direction perpendicular to the substrate surface or the substrate surfaces, wherein said polymerizing of said material layer is conducted in such a manner to provide a spontaneous deformation of molecules forming the monomer material or the prepolymer material, which is induced by an anisotropic mechanical strain due to shrinking the material layer in contact with and parallel to the substrate surface or the substrate surfaces, which is permanently frozen-in by cross-linking polymerization and results in strain-induced negative birefringent properties in the material layer; and

(3) cooling said material layer following said polymerizing to room temperature.

23. (New) Process according to claim 22, wherein said polymerizing is thermally activated at the elevated temperature which is lower than said glass phase transition temperature, and optical birefringence is reduced by reheating the material layer polymerized to a temperature approximately equal to a glass phase transition temperature of the polymerized material.

24. (New) Process according to claim 22, wherein said polymerizing is activated at least initially by UV light.

25. (New) Process according to claim 22, wherein activation of said polymerizing is by UV light and said pouring of said monomer material or said prepolymer material is in accordance with (c), said activation by said UV light comprising a first stage and a second stage wherein the first stage is to a level allowing removal of the non-deformable spacers, and the second stage is to completion substantially in absence of mechanical strains in a direction perpendicular to the material layer polymerized.

26. (New) A process for manufacturing an optical negative birefringent layer which is an Optical Compensation layer (OCL) for angular compensation of phase retardation of a transmitted light through a liquid crystal layer (LCL) and two polarization filters, said OCL consisting of a monomer

material or a prepolymer material and having an optical axis perpendicular to a surface thereof, with said OCL and said LCL having an optical thickness which is a product of birefringence (Δn_{OCL}, Δn_{LCL}) and thickness of the layer (d_{LCL}, d_{OCL}) respectively, and said two polarization filters having an optical thickness (p_1, p_2), respectively, said process comprising

(1) pouring a predefined mass of the monomer material or the prepolymer material

(a) over a rigid substrate surface,

(b) between two rigid substrate surfaces separated by deformable spacers, or

(c) between two rigid substrate surfaces separated by non-deformable spacers,

to form a material layer;

(2) polymerizing said material layer at an elevated temperature which is lower than a glass phase transition temperature of the monomer material or the prepolymer material, such that for

(a) or (b) said material layer is fully cured,

and for (c) said material layer polymerizes at room temperature to a first level at which viscosity of the monomer material or the

prepolymer material is increased to a point that the monomer material or the prepolymer material does not leak out from between the substrate surfaces, followed by removal of the non-deformable spacers, and completion of the polymerization at said elevated temperature,

so that for (a), (b) and (c) the material layer unrestrainably shrinks in a direction perpendicular to the substrate surface or the substrate surfaces; wherein said polymerizing of said material layer is conducted in such a manner to provide spontaneous deformation of molecules forming the monomer material or the prepolymer material, which is induced by an anisotropic mechanical strain due to shrinking the material layer in contact with and parallel to the substrate surface or the substrate surfaces, which is permanently frozen-in by cross-linking polymerization and results in strain-induced negative birefringent properties in the material layer; and

(3) cooling said material layer following said polymerizing to room temperature; wherein mass of said monomer material or the prepolymer material and thus

thickness of the OCL (d_{OCL}) is selected, such that a sum of optical thicknesses of a fully cured OCL and the two polarization filters equals optical thickness of the LCL $(\Delta n_{OCL} \times d_{OCL}) + p_1 + p_2 = (\Delta n_{LCL} \times d_{LCL})$.